

USER MANUAL

Model:

CVG-10ARxl

Video Audio Distribution Amplifier



**For maximum results, use Comprehensive
Brand Premium High Resolution cables
and connectors.**

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1 Introduction

Congratulations on purchasing your **CVG-10ARxl** *Video Audio Distribution Amplifier*. This product is ideal for:

- Audio video duplication studios
- Rental/staging, CCTV, and home theater use

The package includes the following items **CVG-10ARxl** *Video Audio Distribution Amplifier*, power cord and this user manual.

2 Getting Started

We recommend that you:

- Unpack the equipment carefully and save the original box and packaging materials for possible future shipment
- Review the contents of this user manual

3 Overview

The **CVG-10ARxl** is a state-of-the-art 1:10 video audio distribution amplifier using BNC connectors for composite video, and RCA connectors for unbalanced stereo audio signals. The **CVG-10ARxl** accepts a composite video input and distributes the signal to 10 identical outputs.

In particular, the **CVG-10ARxl**:

- Includes looping connectors for connecting to a local monitor, other acceptor, or for forming larger systems¹
- Has a video bandwidth of 360MHZ, ensuring transparent performance with typical video and audio sources
- Can function as unbalanced stereo audio or balanced² mono audio (selected via an audio control button)
- Can output video signals that are DC or AC coupled for maximum flexibility (selected via a coupling button)
- Has front panel video trimmer controls³ for output level and cable

¹ For example, you can connect 3 CVG-10ARxl units to make a 1:30 video audio distribution amplifier (see section 6.2)

² Recommended for low signal transmission over long distances or in audio broadcasting studios for high quality signal recreation

³ The video outputs are arranged in two blocks of 5 outputs (outputs 1 to 5, and outputs 6 to 10). Each block can be separately trimmed for output level and cable equalization (EQ.) thus achieving different compensations for different cable lengths

equalization (EQ.), as well as audio trimmer controls for left and right gain, with an enable / disable control button

Achieving the best performance means:

- Connecting only good quality connection cables, thus avoiding interference, deterioration in signal quality due to poor matching, and elevated noise levels (often associated with low quality cables)
- Avoiding interference from neighboring electrical appliances and positioning your **CVG-10ARxl** away from moisture, excessive sunlight and dust

4 Your CVG-10ARxl Video Audio Distribution Amplifier

Figure 1 and Tables 1 and 2 define the **CVG-10ARxl**:

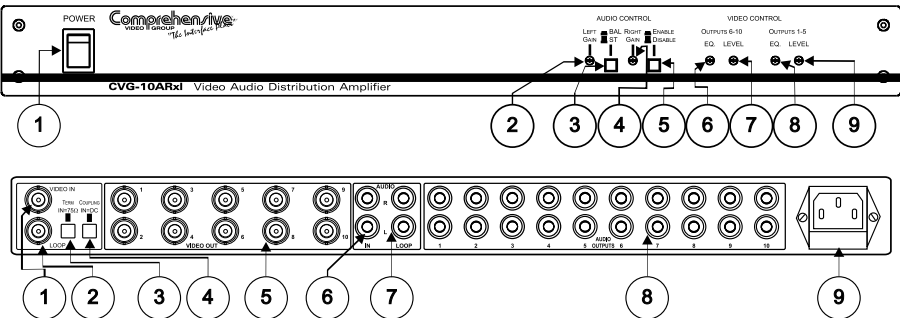


Figure 1: CVG-10ARxl Video Audio Distribution Amplifier

Table 1: Front Panel CVG-10ARxl Video Audio Distribution Amplifier Features

#	Feature	Function
1	Power Switch	Illuminated switch supplying power to the unit
2	AUDIO CONTROL	Left Gain Trimmer
3		BAL/ST Button
4		Right Gain Trimmer
5		Enable/Disable Button
6	VIDEO CONTROL	EQ. Trimmer
7		LEVEL Trimmer
8		EQ. Trimmer
9		LEVEL Trimmer

1 Insert a screwdriver into the hole and carefully rotate it, to trim the level

Table 2: Rear Panel CVG-10ARxl Video Audio Distribution Amplifier Features

#	Feature	Function
1	VIDEO IN BNC Connector	Connects to the video source
2	VIDEO LOOP BNC Connector	For looping to increase output availability
3	Term Button	Pushing in selects 75 Ω , releasing selects Hi-Z ¹
4	Coupling Button	Pushing in selects DC coupling ² , releasing selects AC coupling (removing the DC offset of the input signal)
5	VIDEO OUT BNC Connectors	Connect to the video acceptors
6	AUDIO IN RCA Connectors	Connects to the stereo audio source
7	AUDIO LOOP RCA Connectors	For looping to increase audio output availability
8	AUDIO OUTPUTS RCA Connectors	Connect to the stereo audio acceptors
9	Power Connector with Fuse	AC connector enabling power supply to the unit

1 For looping select Hi-Z

2 Achieving the best linearity and signal fidelity

5 Installing on a Rack

This section describes what to do before installing on a rack and how to rack mount.

Before Installing on a Rack

Before installing on a rack, be sure that the environment is within the recommended range:	
Operating temperature range	+5 to +45 Deg. Centigrade
Operating humidity range	5 to 65% RHL, non-condensing
Storage temperature range	-20 to +70 Deg. Centigrade
Storage humidity range	5 to 95% RHL, non-condensing



CAUTION!!

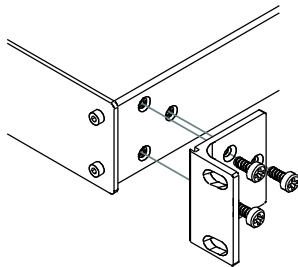
When installing on a 19" rack, avoid hazards by taking care that:

- 1 It is located within the recommended environmental conditions, as the operating ambient temperature of a closed or multi unit rack assembly may exceed the room ambient temperature.
- 2 Once rack mounted, enough air will still flow around the machine.
- 3 The machine is placed straight in the correct horizontal position.
- 4 You do not overload the circuit(s). When connecting the machine to the supply circuit, overloading the circuits might have a detrimental effect on overcurrent protection and supply wiring. Refer to the appropriate nameplate ratings for information. For example, for fuse replacement, see the value printed on the product label.
- 5 The machine is earthed (grounded) in a reliable way and is connected only to an electricity socket with grounding. Pay particular attention to situations where electricity is supplied indirectly (when the power cord is not plugged directly into the socket in the wall), for example, when using an extension cable or a power strip, and that you use only the power cord that is supplied with the machine.

How to Rack Mount

To rack-mount a machine:

- 1 Attach both ear brackets to the machine. To do so, remove the screws from each side of the machine (3 on each side), and replace those screws through the ear brackets.



- 2 Place the ears of the machine against the rack rails, and insert the proper screws (not provided) through each of the four holes in the rack ears.

Note that:

- Detachable rack ears can be removed for desktop use
- Always mount the machine in the rack before you attach any cables or connect the machine to the power

6 Using the CVG-10ARxl Video Audio Distribution Amplifier

You can connect:

- A single **CVG-10ARxl** unit (see section 6.1)
- Several **CVG-10ARxl** units to increase the number of outputs (see section 6.2)

6.1 Connecting a CVG-10ARxl Video Audio Distribution Amplifier

You can connect a single **CVG-10ARxl Video Audio Distribution Amplifier** unit as a 1:10 video audio DA, in which audio is unbalanced stereo audio (left and right) or balanced mono audio (+ and -).

To connect the **CVG-10ARxl** as a 1:10 video unbalanced stereo audio DA, do the following¹:

1. Connect a video audio source (for example, a composite VCR) to the VIDEO IN BNC connector and to the left and right AUDIO IN RCA connectors.
2. Connect the 10² VIDEO OUT BNC connectors and the 10 left and right AUDIO OUTPUT RCA connectors to the video audio acceptors³ 1 to 10.
3. Connect the power cord to the mains electricity.
4. Push in the Term button to terminate the line to 75Ω.
5. Release the BAL/ST button to select unbalanced stereo audio operation.
6. Adjust⁴ the video trimmer controls⁵ for output signal level and/or cable compensation equalization level, if required.
7. If audio control adjustment is required for left and/or right gain, push in Enable/Disable button, and then adjust³ the trimmer controls.

1 Switch OFF the power on each device before connecting it to your CVG-10ARxl. After connecting your CVG-10ARxl, switch on its power and then switch on the power on each device

2 As required. Up to 10 outputs can be connected on the CVG-10ARxl. Not all outputs need to be connected

3 For example, VCR units

4 Insert a screwdriver into the hole and carefully rotate it, to trim the level

5 The video outputs are arranged in two blocks of 5 outputs (outputs 1 to 5, and outputs 6 to 10). Each block can be separately trimmed for output level and cable equalization (EQ.) thus achieving different compensations for different cable lengths

6.2 Increasing the Outputs

You can increase the number of outputs by interconnecting **CVG-10ARxl** units. The example in Figure 2 illustrates how to connect 3 units to increase the number of outputs from 10 to 30.

To form a 1:30 video and unbalanced stereo audio DA, do the following¹:

1. Connect a video audio source (for example, a composite VCR) to the VIDEO IN BNC connector and to the left and right AUDIO IN RCA connectors of the first **CVG-10ARxl** unit.
2. Connect the video LOOP BNC connector of the:
 - First **CVG-10ARxl** unit to the VIDEO IN BNC connector of the second **CVG-10ARxl** unit
 - Second **CVG-10ARxl** unit to the VIDEO IN BNC connector of the third **CVG-10ARxl** unit
3. Connect the left and right AUDIO LOOP RCA connectors of the:
 - First **CVG-10ARxl** unit to the left and right AUDIO IN RCA connectors of the second **CVG-10ARxl** unit
 - Second **CVG-10ARxl** unit to the left and right AUDIO IN RCA connectors of the third **CVG-10ARxl** unit
4. Connect the 10 VIDEO OUT BNC connectors and the 10 left and right AUDIO OUTPUT RCA connectors of the:
 - First **CVG-10ARxl** unit to the video audio acceptors² 1 to 10
 - Second **CVG-10ARxl** unit to the video audio acceptors² 11 to 20
 - Third **CVG-10ARxl** unit to the video audio acceptors² 21 to 30
5. On the first and second **CVG-10ARxl** units, release the Term button. On the third **CVG-10ARxl** unit, push in the Term button to terminate the line to 75 Ω .
6. On each **CVG-10ARxl** unit:
 - Connect the power cord to the mains electricity
 - Release the BAL/ST buttons to select unbalanced stereo audio operation
 - Adjust³ the video trimmer controls⁴ for output signal level and/or cable

¹ Switch OFF the power on each device before connecting it to your CVG-10ARxl units. After connecting the CVG-10ARxl units, switch on their power and then switch on the power on each device

² For example, VCR units

³ Insert a screwdriver into the hole and carefully rotate it, to trim the level

⁴ The video outputs are arranged in two blocks of 5 outputs (outputs 1 to 5, and outputs 6 to 10). Each block can be separately trimmed for output level and cable equalization (EQ.) thus achieving different compensations for different cable lengths

compensation equalization level, if required

- If audio control adjustment is required for left and/or right gain, push in the Enable/Disable buttons, and then adjust¹ the trimmer controls

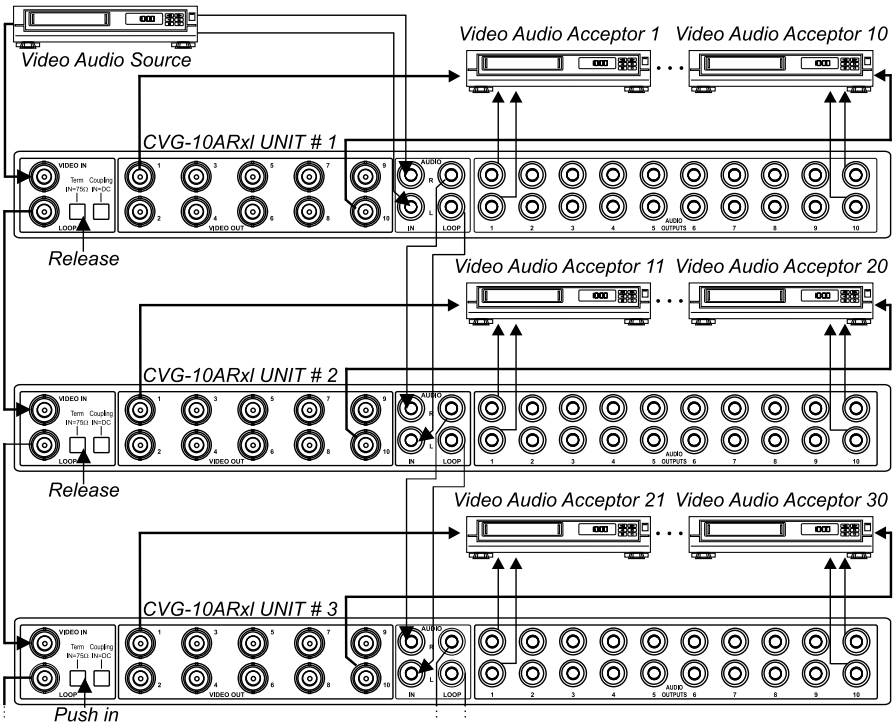


Figure 2: Increasing the Outputs: Arranging a 1:30 Video Audio DA

¹ Insert a screwdriver into the hole and carefully rotate it, to trim the level

7 Technical Specifications

Table 3 includes the technical specifications:

Table 3: Technical Specifications¹ of the CVG-10ARxl

INPUTS:	1 composite video, 1 looping, 1Vpp/75Ω with termination switch on BNC connectors 2 audio, stereo or balanced mono, 2 looping, on RCA connectors	
OUTPUTS:	10 composite video, 1Vpp/75Ω on BNC connectors 10 audio, stereo or balanced mono, on RCA connectors	
MAX. OUTPUT LEVEL:	VIDEO: 1.6Vpp	AUDIO: 26.5 Vpp
BANDWIDTH (-3dB):	VIDEO: 360 MHz	AUDIO: >100 kHz
DIFF. GAIN:	0.07%	
DIFF. PHASE:	0.05 Deg.	
K-FACTOR:	<0.05%	
S/N RATIO:	VIDEO: 77dB	AUDIO: 87dB
CONTROLS:	Front panel accessible trimmers for video level (-1.2dB to +6dB) and EQ. (0dB to +8.1dB), audio left and right control trimmers (0dB to +6dB), balanced/stereo selector switch and audio controls enable switch	
COUPLING:	VIDEO: DC/AC	AUDIO: AC
AUDIO THD + NOISE:	0.023%	
AUDIO 2nd HARMONIC:	0.001%	
POWER SOURCE:	230 VAC 50 / 60Hz (115V U.S.A.), 4.7VA	
DIMENSIONS:	19-inch (W), 7-inch (D), 1U (H)	
WEIGHT:	2.1kg (4.7 lbs.) approx.	
ACCESSORIES:	Power cord	

¹ Specifications are subject to change without notice